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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,776	12/31/2003	Richard Sauer	Serie 6392	1894

7590 05/09/2005

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EXAMINER

LAWRENCE JR, FRANK M

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/750,776

Applicant(s)

SAUER, RICHARD

Examiner

Frank M. Lawrence

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 33-42 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-31 is/are allowed.
- 6) ☒ Claim(s) 1-10, 13-25 and 32 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) 1-42 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-32, drawn to a method of separation, classified in class 95, subclass 288.
 - II. Claims 33-42, drawn to an apparatus for separating, classified in class 55, subclass 428.1.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as in climate control for an automobile or dwelling.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Linda Russell on March 31, 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-32. Affirmation of this election must be made by applicant in replying to this Office action. Claims 33-42 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

5. Applicant is invited to submit a replacement sheet for Figure 1 because many of the features are unclear due to faxing, copying or scanning.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 225. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 170, 175, 190, 195. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

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accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

8. The disclosure is objected to because of the following informalities: In claim 10, it appears that "weigh" should be changed to "weight". The title of the invention should be amended to reflect the elected claims by deleting "and apparatus" if the apparatus claims are canceled.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claim 32 recites the limitation "said detection device" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 32 can be amended to depend from claim 29 to overcome this rejection.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Gu (6,488,745).

14. Gue '745 teaches a method for separating condensable contaminants from a gas stream, comprising introducing the stream into a heating zone covered by a heating sleeve (29) for preventing the contaminants from condensing by heating to a first temperature, introducing the stream into a cold trap (10) where the contaminants are condensed or solidified by a heat exchanger supplied with cooling fluid, melting solidified contaminants using a heating coil (49), and collecting the melted contaminants in a sump (11) (figures 1 and 4, col. 5, lines 35-53, col. 9, lines 3-37).

15. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hintermaier (6,258,153).

16. Hintermaier '153 teaches a method for separating condensable contaminants from a gas stream, comprising introducing the stream into a heating zone covered by a heating sleeve (155) for preventing the contaminants from condensing by heating to a first temperature, introducing the stream into a cooling device (100) where the contaminants are condensed or solidified on an impact plate (160) (figure 2, col. 3, lines 43-51, col. 6, line 31 to col. 7, line 4).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 9, 10 and 13-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese publication (JP 02-228405) in view of either one of Hintermaier '153 or Gu '745.

19. JP '405 discloses a method of separating wax from a wax-containing carrier gas, comprising introducing the gas into a trap (10) containing a heat exchanger cooled by water cooling pipes (40), solidifying the wax on the heat exchanger at a temperature below the solidification point of the wax, heating the trap to a temperature above the wax melting point to melt the solidified wax, and collecting the melted wax through a discharge tube (12) (see abstract, figures). The wax will comprise a high molecular weight hydrocarbon according to the chemical dictionary definition cited as of interest. The instant claims differ from the disclosure of JP '405 in that the gas is first introduced into a heating zone with a first heat exchanger at a preferred first temperature for preventing a phase change in the wax, that the cooling zone is cooled with specified cooling liquid to a preferred temperature, and that there is a preferred melting temperature.

20. Either one of Hintermaier '153 or Gu '745 disclose a cold trap having a preliminary heating zone for preventing condensation of contaminants prior to introduction into the trap as described in paragraphs 14 and 16 above. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the wax trap of JP '405 by including a preliminary heating zone with a heat exchanger in order to prevent premature condensation of contaminants before they can be cleanly collected in a trap that is meant for that purpose. Absent a proper showing of criticality or unexpected results, the preferred process temperatures are considered to be parameters that would have been routinely optimized by one having ordinary

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skill in the art at the time of the invention according to known or measured points of condensation and solidification for the contaminants that are targeted removal. It would have also been necessary to use a cooling medium other than water in the event that the solidification temperature of the contaminant is below the freezing point of water.

Allowable Subject Matter

21. Claims 26-31 are allowed.

22. Claim 32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

23. The following is an examiner's statement of reasons for allowance: The prior art of record fails to suggest a motivation for using an additional heating and cooling zone in combination with the other recited method steps.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

24. Claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references listed on the attached PTO-892 form disclose gas separation systems using heat exchangers to remove contaminants.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank M. Lawrence
Primary Examiner
Art Unit 1724

Frank Lawrence
4-7-05

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